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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/437,078	11/09/1999	DANIEL L. AUCLAIR		7501

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EXAMINER

MOISE, EMMANUEL LIONEL

ART UNIT PAPER NUMBER

2133

DATE MAILED: 10/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/437,078

Applicant(s)
Auclair et al.

Examiner
Emmanuel L. Moise

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2133



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on May 9, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37 and 39-50 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37 and 39-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

1. This Office action is responsive to Applicant's Request for RCE and Amendment filed on May 9, 2002. Claims 37 and 39-50 are pending.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: See below for the claimed subject matter in question.

Claim Rejections - 35 USC § 112

4. Claims 37 and 39-50 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 37, the claimed subject matter in question is the step of "programming the memory cell until the charge of the memory cell is above the programmed-cell reference level."

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Regarding claim 39, the claimed subject matter in question is the step of “programming each memory cell of the group of one or more cells until each of the memory cells has a stored charge over the second threshold .”

Regarding claim 42, the claimed subject matter in question is the step of “identifying a memory cell of the set having a charge above the first reference level and below the second reference level.”

Regarding claim 46, the claimed subject matter in question is the step of “identifying a second sector of said memory cells having one or more with a charge above the first reference level and below the second reference level.” It is noted that Applicant has referred to the specification beginning on page 24, line 29 for the “scrub operation”, and beginning on page 25, line 27 for the use of a scrub during a read operation. After carefully reviewing the disclosure of the application, the Examiner, however, finds no support for the above claimed subject matter.

Response to Arguments

5. Regarding claims 37 and 39-41, Applicant continues to argue that the step of “programming the memory cell ...” is identified with the steps in Figures 8-10 of the present application.

The Examiner disagrees. Step 5 of Figure 9 does not provide support for the claimed step of “programming the memory cell until the charge of the memory cell is above the programmed-

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cell reference level.” In step 901 of Figure 9 of the present application, a first control voltage, which is higher than the voltage for a normal read operation, is applied; and in step 903, a second control voltage, which is lower than a normal read operation, is applied. The cells are read in steps 902 and 904 to see if there is any error as determined by an ECC check. Steps 901-902 and 903-903 are performed to verify that the “1”s and the “0”s, respectively, in the chosen sector of cells are unaffected by the program operation. No step in Figure 9 describes in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention including the claimed language of “programming the memory cell until the charge of the memory cell is above the programmed-cell reference level.”

Applicant also refers to Figure 8 described between page 23, line 6 and page 24, line 23, as providing support for the claimed language in question. The Examiner disagrees. Careful review of steps 801-803 of Figure 8 does not lead to the conclusion that Figure 8 provides support for the step of “programming the memory cell until the charge of the memory cell is above the programmed-cell reference level.” In Figure 8, a check is performed to see if all cells are written correctly under the control of an applied voltage, and if the data are read correctly, a program verify operation is considered to have been successfully. As mentioned in the previous Office action, this is different from the claimed language in question.

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6. Regarding claims 42-45, Applicant argues that there are no grounds for the rejection of these claims in the previous Office action since the claimed language “programming the memory cell until the charge of the memory cell is above the programmed-cell reference level” is not contained in claims 42-45. While this argument is persuasive, the Examiner finds, however, that the step of “identifying a memory cell of the set having a charge above the first reference level and below the second reference level;” in claim 42, is not describes in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 42, Applicant further argues that the claim is believed to be supported by the process of Figures 8-10 and their corresponding description. The Examiner disagrees. Careful review of steps 801-808, 901-905 of Figures 8 and 9, respectively, does not lead to the conclusion that Figures 8-10 provide support for the step of “identifying a memory cell of the set having a charge above the first reference level and below the second reference level.”

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel L. Moise whose telephone number is (703)305-9763. The examiner can normally be reached on Monday - Friday from 08:30 a.m. - 5:00 p.m.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady, can be reached on (703)305-9595. Any response to this action

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should be mailed to: Commissioner of Patents and Trademarks Washington, D.C. 20231, or
faxed to: (703) 746-7239, (for formal communications intended for entry), Or: (703) 746-7240
(for informal or draft communications, please label "PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington. VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be
directed to the Group receptionist whose telephone number is (703) 305-3900.


Emmanuel L. Moise
Primary Patent Examiner
Art Unit 2133

October 28, 2002